

**LEE METCALF NATIONAL WILDLIFE REFUGE
PRELIMINARY AMPHIBIAN AND REPTILE INVESTIGATIONS: 1996**

A Report to:

U.S. Fish and Wildlife Service

Lee Metcalf National Wildlife Refuge
P.O. Box 257
Stevensville, MT 59870

Submitted by

Paul Hendricks

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Montana Natural Heritage Program
1515 East Sixth Avenue
P.O. Box 201800
Helena, MT 59620-1800

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ABSTRACT

During summer 1996, field surveys of resident amphibians and reptiles were initiated on Lee Metcalf National Wildlife Refuge, Ravalli County, Montana. Studies were focused on three projects: 1) compilation of available specimen and sight records for the area, 2) preliminary assessment of Bullfrog (*Rana catesbeiana*) distribution and status, 3) preliminary assessment of Painted Turtle (*Chrysemys picta*) distribution and status.

Five species of amphibian and seven species of reptile have been reported from the Bitterroot Valley between Victor and Florence. Long-toed Salamander (*Ambystoma macrodactylum*), Tailed Frog (*Ascaphus truei*), Western Toad (*Bufo boreus*), Bullfrog, Spotted Frog (*Rana pretiosa*), Painted Turtle, Western Skink (*Eumeces skiltonianus*), Rubber Boa (*Charina bottae*), Gopher Snake (*Pituophis catenifer*), Western Terrestrial Garter Snake (*Thamnophis elegans*), and Common Garter Snake (*Thamnophis sirtalis*) were recorded in the Bitterroot River floodplain, which includes Lee Metcalf National Wildlife Refuge. In recent years few amphibians other than Bullfrogs have been reported from the refuge.

Bullfrogs are abundant on the refuge; adults and transformed juveniles were noted in 10 water bodies, and probably are present in several others. On 29 August, 449 frogs were counted in North Slough during a census of the entire shore and adjacent water; the slough probably contained well over 2000 individuals. Sweeping with dip nets nearshore resulted in capture of only one group of 5 tadpoles, suggesting that transformation of many tadpoles had already occurred. Many Bullfrog tadpoles were seen that same day, however, at the Florence Bridge Fishing Access site, about 5 km north of the refuge. Juvenile Bullfrogs with tails still present were seen in ponds near Barn Slough on 16 September. Available information indicates that transformation occurs over several weeks.

Painted Turtles are found throughout the refuge (noted in nine water bodies in 1996), although they were not seen in some ponds with gravel bottoms (e.g., Pond 2). No estimate of numbers was made for any water body, but 28 adults were observed basking at one time in the Viewing Pond on 13 September. A trapping effort was conducted in September; 3 adult males were captured (all in or near the Viewing Pond and Barn Slough), measured, and marked. Trapping probably occurred too late for maximum effectiveness, but the methodology will work for future efforts. No data on nesting habitat, clutch size, and nest success were gathered.

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INTRODUCTION

Many amphibian species in the western United States are experiencing dramatic population declines (Blaustein et al. 1994, Phillips 1995). A litany of explanations, including elevated predation rates and introduced exotics, have been proposed, any or all of which could contribute to the downward trends (Corn and Fogelman 1984, Phillips 1990).

Conditions at Lee Metcalf National Wildlife Refuge have caused concerns about the resident native amphibian and reptile populations. First, nest predators (mammals and birds) are numerous on the refuge; coupled with this is the impression that few hatchling Painted Turtles are recruited into the local population. The concern is that predators are destroying most nests and young. Second, there is a large population of exotic Bullfrogs on the refuge and general absence of native amphibians, even though the refuge could support other amphibian species. The impact of Bullfrogs on native species is not known, nor is there any quantitative data available on the size and extent of the Bullfrog population on the refuge.

Preliminary surveys were initiated in 1996 to gather together information on the amphibians and reptiles on the refuge. First, museum and sight records were compiled for the Bitterroot Valley between Victor and Florence; this region includes Lee Metcalf National Wildlife Refuge. Additional observations of amphibians and reptiles in this area were recorded during field surveys in 1996, and place the refuge in context with what is known about the regional herpetofauna (Hendricks and Reichel 1996). These data were plotted on distribution maps generated from records in the Montana Natural Heritage Program database. Second, a preliminary inventory of Bullfrog presence across the refuge was conducted, and attempts were made to estimate numbers in isolated ponds. Third, a preliminary inventory of Painted Turtle presence across the refuge was conducted concurrent with the Bullfrog inventory; sites suitable for trapping and marking turtles were located and a pilot trapping effort was begun.